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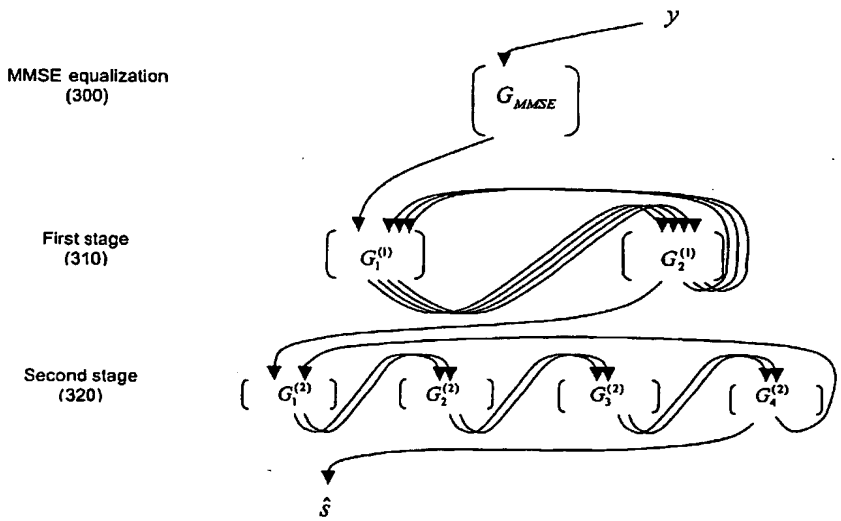
[Continued on next page]

(54) Title: RECEPTION OF MULTICARRIER SPREAD- SPRECTRUM SIGNALS



(57) Abstract: A system (100), receiver (160-190) and method of operation for spread OFDM wireless communication (single user OFDM-CDMA with cyclic-prefix) by: equalizing the received spread OFDM signal (y) and splitting it into first and second portions (s_1,s_2); making a decision on the second portion and subtracting the second portion from the received signal to produce a first difference signal; processing the first difference signal to recover the first portion of the received signal in which symbol interfering terms of the second portion are substantially reduced; making a decision on the first portion and subtracting the first portion from the received signal to produce a second difference signal; and processing the second difference signal to recover the second portion of the received signal in which symbol interfering terms of the first portion are substantially reduced. The process may be iterated extensively at this stage. In a second stage, the recovered received signal is split into a greater number of portions (e.g. 4) and processed similarly to further reduce interference.

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